

shp Jan. 16

Work Order ID 78099

\*78099\*

Page 1

Item ID: D3831-1KGY

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Rear Overhead, LH

Start Date: 28/12/2011 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 16/01/2012 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals: Process Plan: M.L.J

Date: 11/12/29

Tooling:

Date:

Run Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D3831

A

100

0.00

\*100\*

HandThermo

Memo

0.00

Hand Finishing Thermoforming

1-Cut Sheet to required Blank size

x3

Wh

12/01/05

105

0.00

\*105\*

HandThermo

Dry Material

Memo

0.00

Hand Finishing Thermoforming

Dry Sheet as per QSI022 KYDEX

x3

Wh

12/01/05

Temp: 150°F

Time IN: 4:30 pm 12/01/04

Time OUT: 2:30 am 12/04/05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**\*78099\***

Page 2

**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

**Cust Item ID:**

**Customer:**

**Reference:**

Run Start \*NR1\*

Stop \*NR2\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

110

0.00

**\*110\***

0.00

Thermoform

### Thermoforming Machine

## Memo

1-Machine Set-Up  
2-Pre-heat Tool to required temp.  
3-Thermoform as per Dwg and Folio #FTA058 using tool DT9343  
Dwg Rev: A  
Folio Rev: B

12

41

12/01/05  
PTO —

120

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*120\***

0.00

QC

## Quality Control

## Memo

Visually inspect part for proper formation and texture

x2

X1

12/12  
12/01/05

130

QC8- Inspect parts - second check

0.00

**\*130\***

0.00

QC

## Quality Control

## Memo

X

X

BB  
12/01/05

# Dart Aerospace Ltd

W/O: 78099		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3831-1KGY PAR #:          Fault Category: Thermopforming NCR: Yes No    DQA:    Date: 12/1/17  
 Resolution: Scrap Disposition: Scrap QA: N/C Closed:    Date: 12/1/17

NCR: 12-1118		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/01/06	170	PART DID NOT FORM PROPERLY. REASON: LH & RH Moulds Too Close.	12/01/17 OS1042	Repair + space LH & RH Moulds. <del>Scrap &amp; Replace 2 parts</del> Replace 1 part	12/04/06	S 12/01/17	12.01.17 OS1042	S 12/01/17
			12/01/17 OS1042	1119476			12/01/17 OS1042	

NOTE: Date & initial all entries

December-28-11 3:33:14 PM

**\*78099\***

Page 3

**Accept**

**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

**Start Date:** 28/12/2011    **Start Qty:** 1.00    **\*1\***

**Cust Item ID:**

**Required Date:** 16/01/2012      **Req'd Qty:** 1.00      **\* 1 \***

**Customer:**

**Reference:**

**Approvals:** \_\_\_\_\_ **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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140

0.00

**\*140\***

0.00

HandThermo

## Memo

### Hand Finishing Thermoforming

1-Trim to finished dimensions as per Dwg

150

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*150\***

0.00

OC

## Memo

## Quality Control

Complete FAI document

160

QC5- Inspect part completeness to step on W/O

0.00

**\*160\***

0.00

QC

## Memo

## Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 78099****\*78099\***

Page 4

December-28-11 3:33:14 PM

Item ID: D3831-1KGY

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Rear Overhead, LH

Start Date: 28/12/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 16/01/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

170

Identify as per dwg &amp; Stock Location: \_\_\_\_\_

0.00

**\*170\***

Packaging

Memo

0.00

Packaging

180

QC21- Final Inspection - Work Order Release

0.00

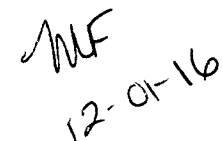
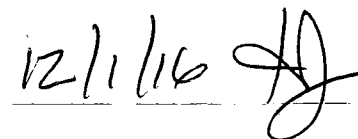
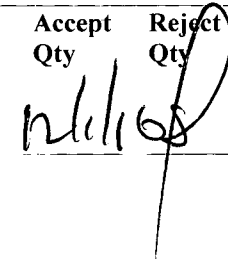
**\*180\***

QC

Memo

0.00

Quality Control



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

December-28-11 3:33:18 PM

Page 1

Work Order ID: 78099

\*78099\*

Parent Item: D3831-1KGY

\*D3831-1KGY\*

Parent Item Name: Rear Overhead, LH

Start Date: 28/12/2011

Required Date: 16/01/2012

Start Qty: 1.00

Required Qty: 1.00

## Comments:

IPP RevA: New issue DD verified by:EC  
Add Step 105 Dry Material 10/04/21 DL

IPp Rev. B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MKYD6185S.080-P3-52068		Purchased		No		100	sf	1,011.893	11.094	11.094			

\*MKYD6185S 080-P3-52068\*

Kydex steel grey

\*\*

## Location

therm

111807

119476

## Loc Qty

1011.893107

10.4896282

1001.40348

## Loc Code

33.282 sg ft

12/01/13

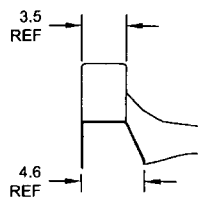
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

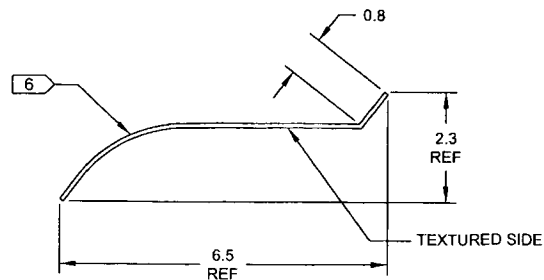
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

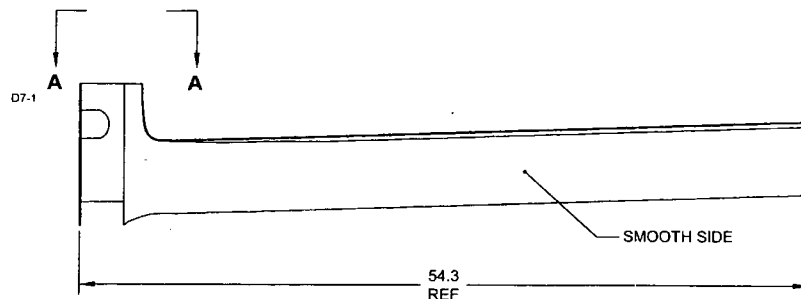
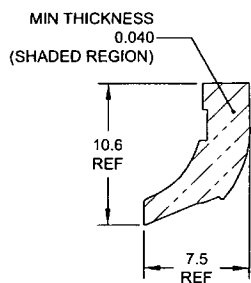
**NOTE:** Date & initial all entries



**VIEW A-A**  
C7-1



**VIEW B**  
B3-1  
(SCALE 4X, ROTATED CW)



**VIEW B**  
C3-1

**D3831-1 REAR OVERHEAD, LH**

**RELEASED**  
9/16/25/116

**NOTES:**

- 1) MATERIAL: SEE TABLE
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N (SEE TABLE) USING VIBRATING STYLUS
- 7) WEIGHT: 1.4 lbs
- 8) TOOLING: THERMOFORM PER MOLD DT9343 PER DART QSI 022. TRIM PER MOLD
- 9) MINIMUM THICKNESS: 0.050" UNLESS OTHERWISE NOTED

PART NUMBER	DESCRIPTION
D3831-1KIV	KYDEX 6185, 0.080 THICK, P3-VELOUR MATTE, IVORY #62015 (MKYD6185S.080-P3-62015)
D3831-1KGY	KYDEX 6185, 0.080 THICK, P3-VELOUR MATTE, STEEL GRAY #52068 (MKYD6185S.080-P3-52068)

A	NEW ISSUE	PH	09.06.12
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.06.12		

**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D3831  
REAR OVERHEAD

REV. A  
SHEET 1 OF 2  
SCALE  
NTS

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

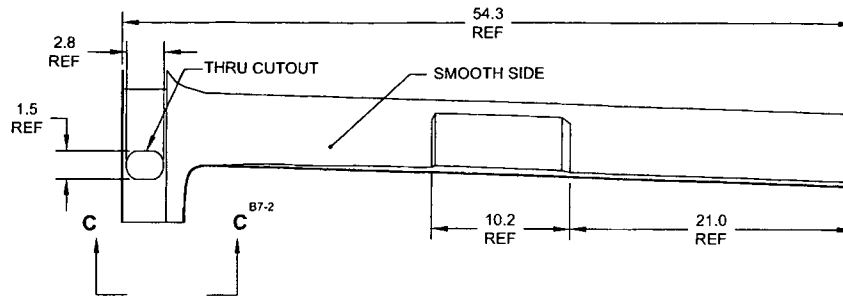
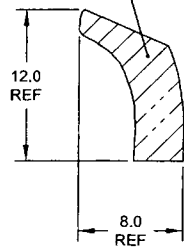
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

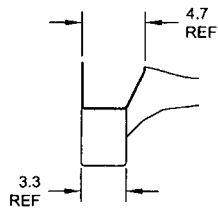
**NOTE:** Date & initial all entries

78095

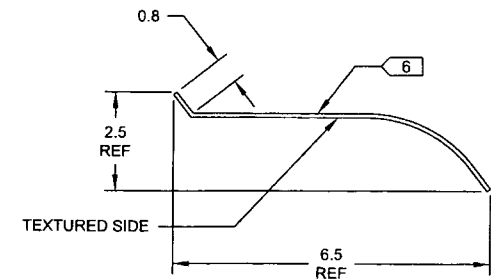
MIN THICKNESS  
0.040  
(SHADED REGION)



VIEW D<sup>B1-2</sup>



VIEW C-C<sup>C6-2</sup>



VIEW D<sup>C3-2</sup>  
(SCALE 4X, ROTATED CW)

**D3831-2 REAR OVERHEAD, RH**

**NOTES:**

- 1) MATERIAL: SEE TABLE
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N (SEE TABLE) USING VIBRATING STYLUS
- 7) WEIGHT: 1.4 lbs
- 8) TOOLING: THERMOFORM PER MOLD DT9344 PER DART QSI 022. TRIM PER MOLD
- 9) MINIMUM THICKNESS: 0.050" UNLESS OTHERWISE NOTED

PART NUMBER	DESCRIPTION
D3831-2KIV	KYDEX 6185, 0.080 THICK, P3-VELOUR MATTE, IVORY #62015 (MKYD6185S.080-P3-62015)
D3831-2KGY	KYDEX 6185, 0.080 THICK, P3-VELOUR MATTE, STEEL GRAY #52068 (MKYD6185S.080-P3-52068)

DESIGN	RB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RB		
CHECKED	AS	DRAWING NO.	REV. A
MFG. APPR.	AS	D3831.	SHEET 2 OF 2
APPROVED	AS	TITLE	SCALE
DE APPR.	AS	REAR OVERHEAD	NTS
DATE	09.06.12	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

RELEASED  
01/06/13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 78099
<b>Description:</b>	<b>Part Number:</b> D3831-1RGY
<b>Inspection Dwg:</b> D3831 <b>Rev:</b> A	<b>Page 1 of 1</b>

**FIRST ARTICLE INSPECTION CHECKLIST**  
**THERMOFORMING SECTION**

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than $\frac{1}{8}$ "	✓			
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

<b>Measured by:</b> <i>DR</i>	<b>Date:</b> 12/01/05
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**TRIMMING SECTION**

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
54.3 "	Ref	54.3'	✓		TAPE DL-01	
6.5 "	Ref	7.0 "	✓		TAPE DL-01	
2.3 "	Ref	2.5 "	✓		TAPE DL-01	
0.050"	M.N.	0.069"	✓		Visual DL-02	
0.040"	M.N.	0.055"	✓		Visual DL-02	

<b>Measured by:</b> <i>DR</i>	<b>Date:</b> 12/01/05
<b>Audited by:</b> <i>S</i>	<b>Date:</b> 12/01/05
<b>Preliminary Approval:</b>	<b>Date:</b>

Rev	Date	Change	Revised by	Approved
B	10.04.14	Added preliminary approval	KJ	

*10.04.14*